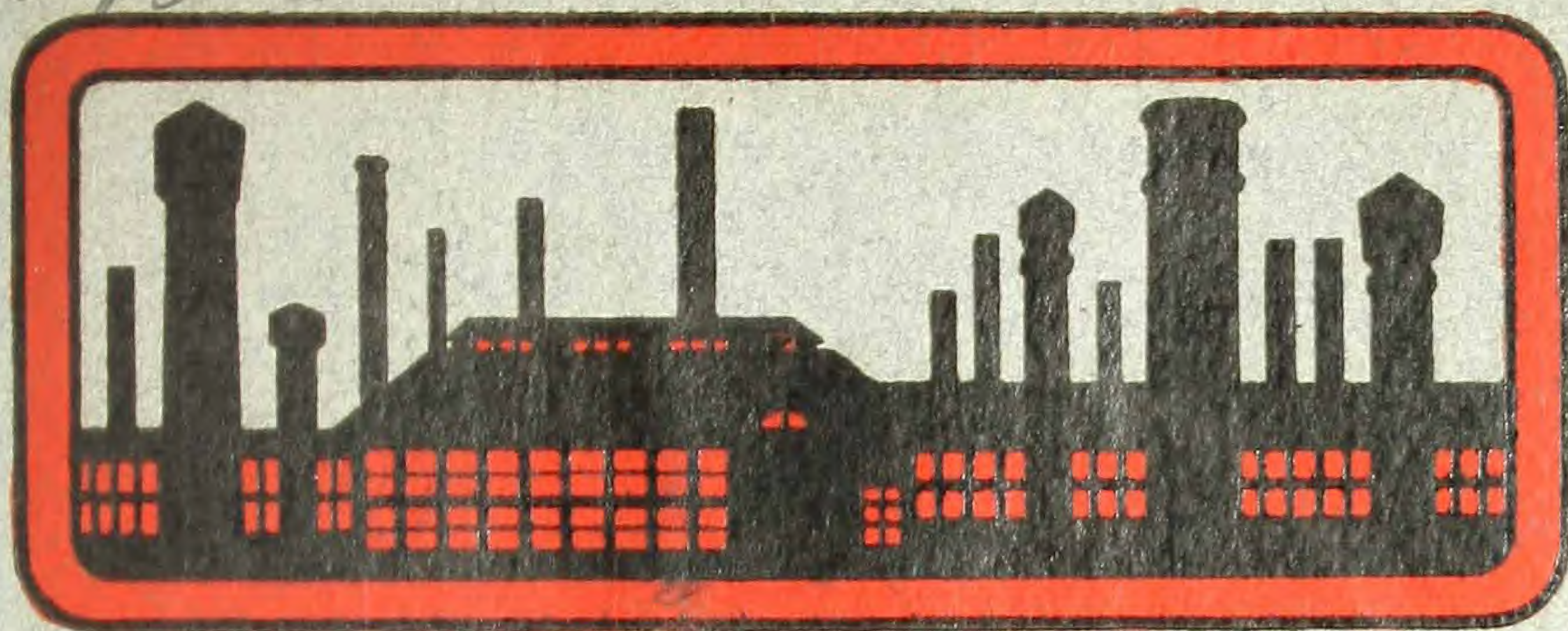


648-1



*smoke prevention*

# THE PASSING OF SMOKEVILLE

231 The Mutual Life Building,  
1011 Chestnut St., Philada.







648-1.

# The Passing of Smokeville

(c. 1900)

*Presented by*

*The Smoke Prevention Co. of America,*

*66 Broadway, New York*  
**231 The Mutual Life Building,**  
**1011 Chestnut St., Philada.**





TEST OF THE  
AUTOMATIC SMOKE PREVENTOR AND FUEL ECONOMIZER,  
ON ONE OF THE BOILERS OF THE AMERICAN STEEL AND  
WIRE WORKS, CLEVELAND, OHIO.



# Smoke—Its Causes and Prevention

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The manufacturing town of the immediate future will be fortunately free from the annoyances which mark the "Smokeville" of to-day.

In many sections the long black ribbon pouring forth from stack and chimney has already been classed with the ogres of the past. The problem of its being has been solved. The secret—perfect combustion.

Until this fact was fully appreciated, the time and money spent in endeavors to "consume" smoke was time and money wasted. In "prevention" lay the only cure.

The Automatic Smoke Preventor and Fuel Economizer is the only one of the nine hundred and odd devices put before the manufacturing public which has answered in its entirety the purposes for which it was invented—prevention of smoke and economy in fuel.

A boiler or furnace equipped with this device no longer proves a nuisance to its neighbors, while the mind of the owner or manager is free to wrestle with other vital problems of the work-a-day world.

It would be a long story to tell of the trials and disappointments which befell us while perfecting the Automatic Smoke Preventor and Fuel Economizer.

Suffice it that the appliance stands to-day perfect in its mechanism, though simple in the extreme—a physical evidence of the smoke problem being a problem of the past.

Our experiments finished a year ago. Since then we have been verifying conclusions.

## How We Began

We began business by going to the big smoke producers. The Standard Oil Company was in trouble owing to the nuisance it occasioned. The Company had a large plant at Bayonne, N. J., on the shore of the New York Bay.

The smoke from their twenty-seven stacks caused such an annoyance to vessel owners and residents of Staten Island that a protest was lodged with



the Secretary of the Navy. Some pilots vowed they had to use a compass to find their way at midday.

The Navy Department ordered the Company, "stop the smoke or get out."

They didn't get out but began experimenting. They tried every device to consume smoke that was offered, and all this at a tremendous expense.

All failed to fulfil the conditions.

Then we stepped in.

We offered to put in our device at our own expense. We guaranteed to leave it in for thirty days. If in that time the smoke nuisance wasn't abated, the coal bill reduced perceptibly and a greater heat secured under the boilers, we agreed to *remove our device and leave* the firebox and boiler as we found it, without a cent of expense to the company.

Our offer was accepted and we equipped two boilers. These hadn't been in operation more than a few weeks when the company said "you win."

They paid us for what we had done and then ordered the balance of their 27 boilers equipped. This was done. All are now working to their complete satisfaction.

What we did for the Standard Oil Company we can do for you. We will stop your smoke and save money on your fuel bill. We will also prolong the life of the boilers, and give you greater heat energy per ton of coal than is possible with any other device.

And this is how we'll do it :

We don't begin by ripping out your fire grates or punching holes in the front of your furnace. We simply remove the lower bricks of the firebox lining and put in their place our patent tiles connected with our automatic device.

## The Need of Oxygen

It is a well known theory of science that if pure oxygen were everywhere present combustion would be furious and everything consumed. Fortunately for us it is diluted with nitrogen, an incombustible gas, which constitutes four-fifths of the atmosphere.

Owing to this dilution, oxygen will not unite with the carbon and hydrogen in fuel and produce rapid combustion, except at a high temperature.



In burning, the oxygen unites with the carbon in the fuel, producing hydrogen fire, which is also instantly decomposed by the lighter hydrocarbons of the fuel and coal used. The products of the combustion, which are not entirely consumed, go to make the smoke.

It is therefore self-evident that the intensity of a fire and the amount of heat it produces, depends upon its supply of oxygen. We supply sufficient oxygen to effect perfect combustion.

## **Bellows vs. Lamp Burner**

The blacksmith's bellows and the common lamp chimney are contrasting examples of the effect of forced oxygen. In the former an intense heat is secured, but the combustion is imperfect.

In the latter the steady brilliant flame, and lack of smoke is due wholly to perfect combustion. Interfere with the air supplied from beneath the burner, or place a card on top of the chimney and the effect is imperfect combustion and—smoke.

The principle of perfect combustion is further illustrated by taking a small piece of paper and thrusting it into a candle blaze. There is a noticeable absence of smoke. Double the size of the paper and the smoke is clearly in evidence. The explanation is that if you retain sufficient heat there will be no smoke.

We use the same principle under the boiler. We get the air there at just the right moment and cut it off at just the right moment, all automatically, and the result is perfect combustion—no smoke and increase of heat from the fuel.

The automatic working of the smoke preventor is simple in the extreme. When the firebox door is opened for stoking, a valve is released which fills the cylinder with water. Once the gauge at the channel entrance is regulated, it works automatically, and the air is cut off gradually as the coal is coked, thereby preventing an unnecessary supply of nitrogen.

## **No Cold Air in Flues**

The superheated air entering the firebox at the vital moment creates a centrifugal motion preventing cold air from entering the flues or striking the



heating surface while stoking. The progress of the plant is not checked during the process and there is no loss of heat or power.

A glance at the firebox while the device is in operation discloses a white incandescent heat, radiating perfectly without concentration, thereby preventing unequal expansion of the boiler plates. As a result, the life of the boiler is prolonged, and the owner a gainer through a corresponding decrease in his bills for repairs.

## **Saving in Coal**

The economical side of the question is regulated by the conditions of the plant itself. Tests made by the owners and those made by us showed from 10 to 40 per cent saving.

The high percentage was the result of our improvement in the furnace, and the fact that cheap fuel could be substituted for high priced coal. Bituminous coal contains from fifteen to thirty per cent. of volatile matter that is released when fresh coal is put on the fire, and goes up the stack and is wasted. Unless the volatile matter or gas is mixed with oxygen it will *not burn*. By consuming the volatile matter and gas we necessarily increase the heating efficiency of the coal in the same proportion.

With our device in operation there is no adhesion to the heating surface of unconsumed carbons, which are non-conductors of heat. The flues are kept clean, necessitating inspection less than once a week. The boiler shells are preserved and crystallization of sheets prevented, Unequaled expansion is impossible and economy in the consumption of gases while in suspension, assured.

## **Prevention on Government Test**

Perhaps the best test of the value of the Automatic Smoke Preventor was that made by a United States Government Inspector at St. Paul, Minn.

An extract from his report on the device as tried on a battery of Babcock & Wilcox boilers, installed in the new Custom House and Post Office, shows 17 per cent. saving in fuel and preventing 95 per cent. smoke.



He says :

“ The result of the trial for economy, capacity and smokelessness on one of the boilers and furnaces is enclosed and based upon this trial, I recommend the acceptance of the boilers and furnaces :

Duration of Test . . . . .	11 Hours
Water Actually Evaporated from and at )	
212 Degrees per Pound of Coal as Fired )	11.00
Economy in Fuel Consumption . . . . .	17%
Increased Horse Power Capacity over Rating . . . . .	25%
Prevention of Smoke . . . . .	95%
Temperature of Escaping Gas . . . . .	400°
Moisture in Gases . . . . .	None

“ The requirements of the specifications were, that the combined efficiency and capacity of boiler and furnace must be such that one pound of bituminous coal would evaporate ten pounds of water from and at 212° and that 90% of the smoke generated to be consumed, and also that furnace must increase capacity of boiler 25%.”

## One Evil of the Smoke Nuisance

(From the *Philadelphia North American*.)

The interest which is being taken in the daily increasing density of soft coal smoke in Philadelphia atmosphere was emphasized yesterday by the following letter, which was received at the *North American* office :

HOTEL IMPERIAL.

New York City, January 15,

To the Editor of the *North American*.

Dear Sir :—I have noticed with interest the stand which your paper is taking against the increasing annoyance of soft coal smoke in your city.

My wife having a delicate throat, was forced to leave Philadelphia, on account of the prevalence of smoke. There is not a drive in or about the city where one's pleasure is not marred by this nuisance.

Respectfully yours,

J. B. C., AN EX-PHILADELPHIA MANUFACTURER.

The cost of the Automatic Smoke Preventor is comparatively trivial when the saving effected in fuel bills is taken into consideration.

We will equip your plant under the following guarantee :



## THE SMOKE PREVENTION CO. OF AMERICA.

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### Guarantee.

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*Guarantee.*—We will equip your boilers with the AUTOMATIC SMOKE PREVENTOR, and when installed, you pay for it if you are *satisfied*. If not found satisfactory, upon written notice we will remove said device free from expense to you and leave your plant in as good condition as when said device was put in. We absolutely *guarantee to prevent smoke and save fuel, at no charge will be made.* We also preserve the boiler shell, and prevent crystallization of scales and unequal expansion. We accelerate the draft; we save the coal; we consume large volumes of air with the system. Our great merit, however, is economy in the consumption of gases while in suspension, and the prevention of said air entering the flue while cooking. Our automatic apparatus will not get out of order, and positively controls the device. We will place our device in a test with any Smoke Prevention so-called Smoke Consumer on the market, and guarantee better results. Every owner of a plant, every engineer and every fireman where our device has been installed, is a standing advertisement for our Automatic Smoke Preventor and Fuel Economizer. We guarantee to satisfy the owner of the plant, the engineer in charge, and the City or State authorities. We offer you to anyone using our device.

Very truly yours,

The Smoke Prevention Co. of America,

66 Broadway, New York.



# SMOKE PREVENTION COMPANY OF AMERICA.

66 BROADWAY, NEW YORK CITY.

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GENTLEMEN :

For the sum of ..... Dollars  
to be paid to us ..... days after the equipment of your  
plant, we will install our device under your .....  
boiler ..., located at .....

We guarantee that the device will abate smoke in compliance with all  
City and State laws and to the satisfaction of yourselves and the proper  
authorities, and that it will increase the heating efficiency of bituminous coal  
at least ten per cent. under normal conditions.

If you are not satisfied with the device... within the .....  
days given you for testing same, upon written notice to that effect, we will  
remove the device at our expense, leaving your plant in as good condition as  
it was before installation of said device.

Dated ..... 190 .....

SMOKE PREVENTION COMPANY OF AMERICA.

By .....

Accepted ..... 190 .....

Agents are not authorized to vary from the condition of this printed form.



## Reports on Other Tests

On the following pages will be found reports on a number of tests. They tell in a most effective manner the manifold advantages of the Automatic Smoke Preventor and Fuel Economizer.

Many of the letters are addressed to the Northwestern Automatic Smoke Preventor Co. This was the name of the organization of which the Automatic Smoke Preventor Company of America is the successor.

N. LEHNEN, Ph. D., Analytical and Technical Chemist,  
364 Robert Street.

St. Paul, Minn., May 19, 1899.

R. W. CAVENAGH, Esq.,

*My dear Sir:*—In answer to your enquiry of my opinion as to the merits of your Smoke Preventor, I have carefully examined and did see your Smoke Preventor in operation, furnished by your company to the N. P. R. R. Co. at their power house in our city. I was agreeably surprised to find combustion as near perfect as possible, being controlled completely by your automatic device of the water and air adjusting itself to any and all conditions of the fuel used. It is due to this that the combustion is so perfect and complete. The water being converted into steam, coming in to the arch from each side with air, the steam is instantly decomposed into its chemical elements, hydrogen and oxygen, thus producing oxhydrogen fire, which is also instantly decomposed by the lighter hydro-carbons of the fuel and coal used into oxhydro-carbon gas, hence the perfect combustion. The air in this can act as a mantle or carrier to aid the draught, and this being true, your device preventing smoke must also be a saving of fuel, from the fact that all heat units of the fuel are utilized.

Respectfully yours, N. LEHNEN.

STANDARD OIL COMPANY,

New Jersey.

29 Broadway, New York, Feb. 27th, 1900.

Mr. R. W. CAVENAGH, President,

NORTHWESTERN SMOKE PREVENTOR CO.,

*Dear Sir:*—Please go ahead at once and equip eight boilers at Bayonne Pier Works, as per our understanding, and under the same conditions as the twelve boilers recently equipped at that point and the seven at our barrel factory, giving us the benefit of any improvements you may have.

Yours respectfully,

(Signed) STANDARD OIL COMPANY,  
By L. P. DEXTER.



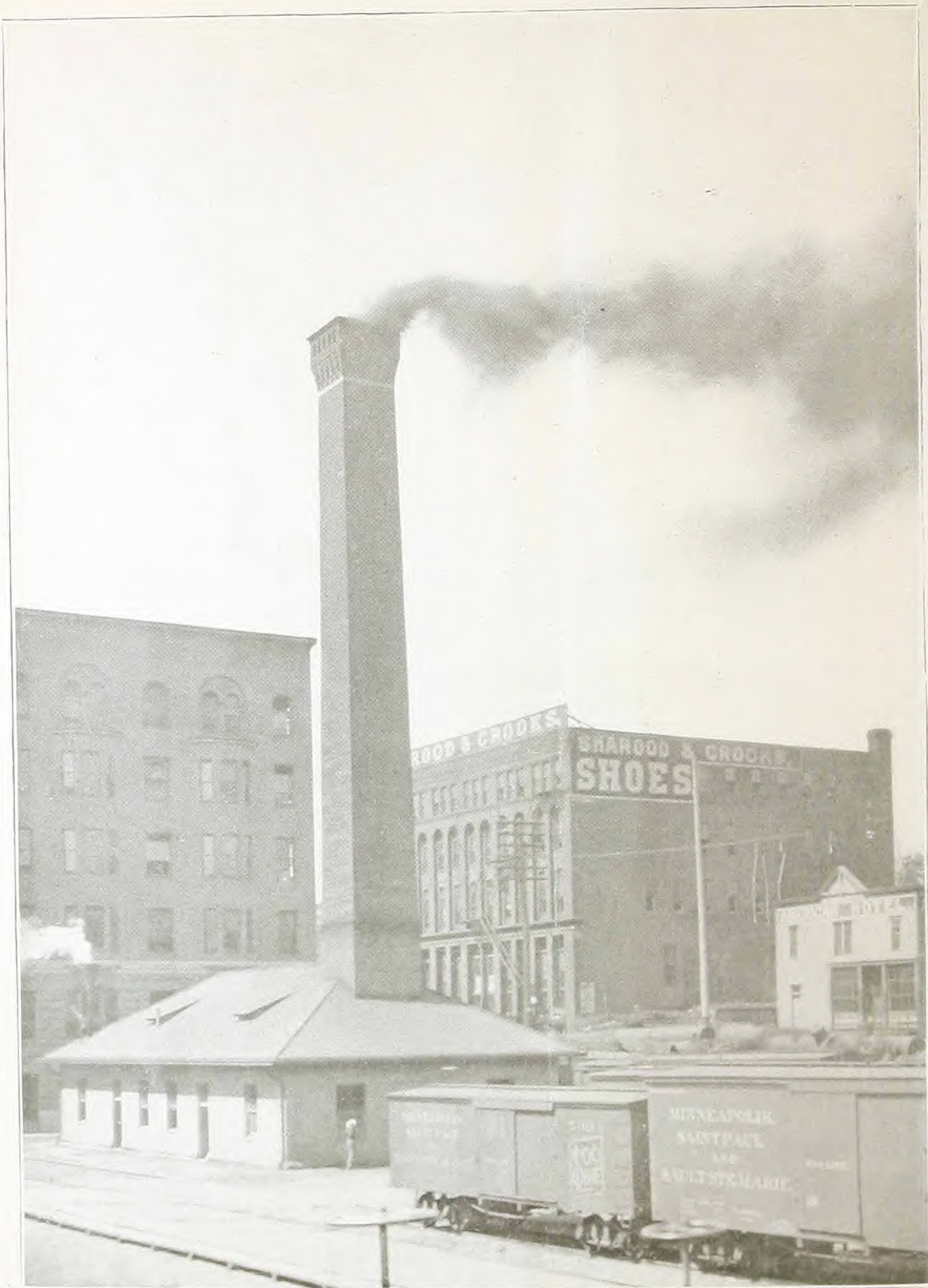
# SUMMARY OF TESTS MADE AT THE PLANT OF THE NORTHWESTERN MALLEABLE IRON CO.

	Jan. 18.	Jan. 22.
Duration of test in hours, . . . . .	5	5
Type of boiler, horizontal tubular, . . . . .		
Size of boiler, 66" x 16', 54-4" tubes 16' long. . . . .		
Rated capacity of boiler, 125 h. p. . . . .		
Horse power developed on the basis of 34 1/2 lbs. of water per hour, . . . . .	134	134
Per cent over-rating of boiler (developed), . . . . .	7.2	7.2
Kind of furnace used, . . . . .	N. W. Auto.	Plain setting
Dimensions of furnace, . . . . .	5' 6" x 4'	5' 6" x 4' 6"
Average steam pressure, . . . . .	95	94.5
Average feed water temperature, . . . . .	39	39
Chimney draft, (inches of water) . . . . .	5	5
Temperature of chimney gases . . . . .	Not taken	Not taken
Kind of coal used . . . . .	Pitts. coking	Pitts coking
Cost per ton delivered . . . . .	\$2.90	\$2.90
Total coal burned . . . . .	2,800	3,150
Coal burned per hour . . . . .	560	630
Coal burned per square foot grate surface . . . . .	25.4	22.3
Total ash . . . . .	180	120
Per cent of ash . . . . .	6.4	3.8
Total evaporation . . . . .	19,090	19,090
Evaporation per hour, actual . . . . .	3,818	3,818
"    " lb. coal, actual . . . . .	6.9-	6.03
"    "    "    " f. & a. 212 . . . . .	8.4-	6.33
"    "    " combustible f. & a. 212 . . . . .	8.9-	7.6-
Cost to evaporate 1,000 lbs. water . . . . .	21.2c.	24.4 c.
Per cent of economy of Northwestern Automatic Smoke Preventor over plain setting . . . . .	15.1-	

These tests were made under regular running conditions. No preparations were made for tests, such as cleaning boilers, tubes, etc., previous to starting tests.

The large per cent of ash in first test was due to coal not being properly cleaned in the yard.

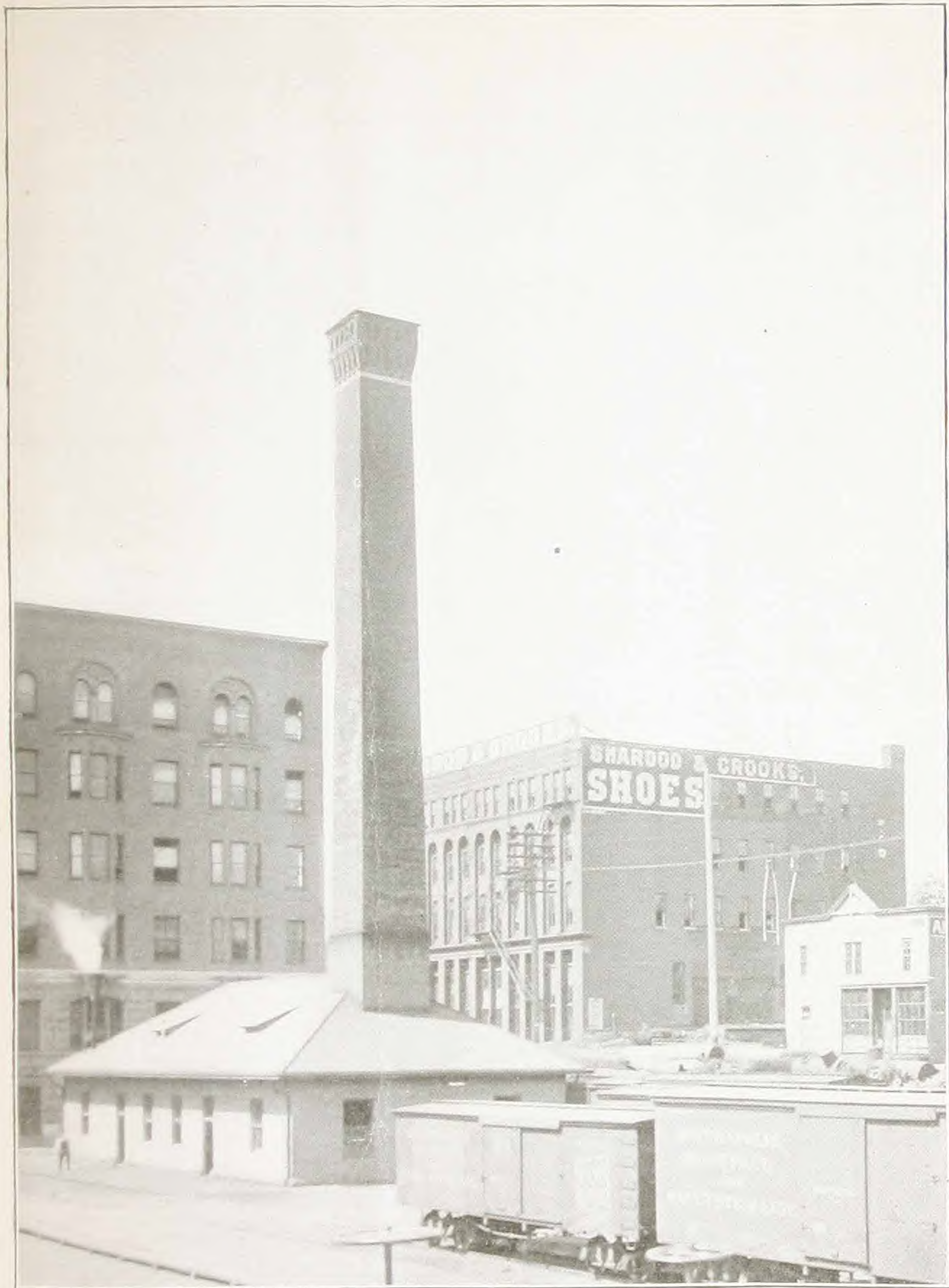




**TEST of the AUTOMATIC SMOKE PREVENTOR AND FUEL ECONOMIZER**

Photograph of Stack and Power House, without appliance in operation.





ie POWER HOUSE of the NORTHERN PACIFIC RAILROAD CO., ST. PAUL, MINN.

Photograph taken nineteen seconds after appliance was set in operation.



# EVAPORATIVE TEST MADE AT THE "BUCKINGHAM" WITH AND WITHOUT THE NORTHWESTERN AUTOMATIC SMOKE PREVENTOR.

By John Kilshaw, Mechanical Consulting Engineer.  
St. Paul, Minn., Aug. 14, 1899.

	Without Preventor.	With Preventor.
Duration of test in hours, . . . . .	9	9
Number of boilers, . . . . .	1	1
Kind of boiler, horizontal tubular. . . . .		
Size of boiler, 60 in. diam., 16 ft. long. . . . .		
Nominal rating, 72 horse power. . . . .		
Square feet of heating surface, . . . . .	920	920
Kind of fuel used, Youghioghenny lump. . . . .		
Amount of fuel used, in lbs., . . . . .	1600	1420
Pounds of fuel used per hour, . . . . .	177.7	157.7
Pounds of fuel used per hour per h. power, . . . . .	4.2	3.6
Total amount of ash and cinders, . . . . .	190	148
Total amount of water evaporated, in lbs., . . . . .	11956	12322
Pounds of water evaporated per lb. of coal, . . . . .	7.4	8.6
Total horse power generated, . . . . .	375	395
Pounds water evaporated at and from 212, . . . . .	12480	13581
Pounds water evaporated per lb. combustible from and at 212, . . . . .	8.8	10.6
Temperature of feed water, . . . . .	158	147
Temperature of gases in uptake, . . . . .	364	360
Pressure of draft in inches, . . . . .	.4	.4
Average steam pressure per gauge, . . . . .	81.5	86

Thus showing a net gain of 16 per cent. with Preventor.

There was no smoke while Preventor was in use.

The above test completed May 6, 1899.

JOHN KILSHAW, Mechan. and Const. Eng.

NORTHWESTERN MALLEABLE IRON CO.

Milwaukee, Wis., Jan. 30, 1900.

Dear Sir:—Replying to your favor of the 29th inst., we enclose here-  
with copy of tests recently made by us, showing per cent of economy of the  
Northwestern Automatic Smoke Preventor over plain setting.

Yours very truly,

NORTH-WESTERN MALLEABLE IRON CO.,

FRED'K W. SIVYER, Pres.



DIAMOND SODA WORKS, Galena and Commerce Streets,  
Milwaukee, Wis., March 13th, 1900.

*Dear Sir:*—We beg to make the following report on the smoke consuming device which you put in our factory last fall.

We put in a Northwestern Automatic Smoke Preventor on Nov. 1, 1899, and have found same satisfactory in every respect.

We think it solves the smoke nuisance question, and it also keeps our boiler flues clean, as well as saving fuel.

With Indiana lump coal we found an actual saving of 17%.

With Pittsburg screenings the saving ran from 8% to 13%, and we expect our consumer to pay for itself about twice a year.

Thanking you for calling our attention to this device we are,

Yours truly,

DIAMOND SODA WORKS,  
O. RAUCHFUSS, Mgr.

St. Paul, Minn., May 25, 1899.

AUTOMATIC SMOKE PREVENTOR CO., City.

*Gentlemen:*—This is to certify that I was present at the test made on the boilers at the Buckingham, ending May 5, 1899, and positively state that it was an honorable and fair test in every particular. The Preventers do all that you claimed for them.

Yours truly,

(Signed) SAMUEL GRANT, Chief Eng.

THE BUCKINGHAM,  
Corner Smith Avenue and 9th Street.

St. Paul, Minn., May 21, 1899.

R. W. CAVERNAUGH, 136 Endicott Arcade, City.

*Dear Sir:*—We send you herewith check in full for account, for the equipment of the two (2) boilers in this hotel. We take pleasure in stating that the work is satisfactory in every way, and will do what you claimed for your device. We are pleased with the test made, ending May 5, being fully satisfied that it was an honest one, and that saving of fuel and prevention of smoke is assured. We are,

Yours very truly, THE BUCKINGHAM HOTEL,  
W. E. JOHNSON, Mgr.



LUTHER S. CUSHING, Care and Management of Real Estate,  
Member of the Boston Real Estate Exchange.

St. Paul, Minn., January 30, 1899.

THE NORTHWESTERN AUTOMATIC SMOKE PREVENTOR,

*Dear Sir:*—In reference to your question as to the efficiency of your smoke consumer, it gives me pleasure to give the following results:

Without the Automatic Fuel Economizer, for the months of October, November and December, 1897, we consumed 563 tons, 1595 lbs. of coal, equal to  $563\frac{3}{4}$  tons, and for the same months of October, November and December, 1898, with your Automatic Smoke Preventor and Fuel Economizer in use we consumed 507 tons, or say  $507\frac{3}{4}$  tons, showing a saving of fifty-six tons.

The temperature of the weather taken from the St. Paul Government Bureau for the three months of October, November and December for 1897 and 1898 are as follows:

	Mean M & M 1897.	Mean M & M 1898.	
October	53	45.9	7.1 c
November	29.4	29.6	.2 w
December	15.5	13.3	2.2 c

Averaging 3.1 degrees colder for 1898 than 1897 (for the three months).

The device prevents smoke and keeps the flues clean; we are getting no more soot from our flues in five days than we got in one day before the automatic was put in. Our boiler shells are smooth. The device works automatically and we can always depend on it for a quick fire when needed. We have 33,000 feet of radiating surface in the building, besides electric light plant and elevators.

Very truly yours, LUTHER S. CUSHING.

THE MINNESOTA SOAP CO.

St. Paul, Minn., March 30, 1899.

THE NORTHWESTERN AUTOMATIC SMOKE PREVENTOR CO.

*Gentlemen:*—Herewith find check for the two smoke consumers which you put in for us last month. We are more than satisfied with them and had we known of their fuel saving qualities would have had you put them in before. The device is thoroughly automatic, giving us no trouble whatever. Below find tests we have made in the past few days showing conclusively to us that your device is not only a smoke consumer but a coal saver as well.

First test. With screenings.

Without your device.—One ton coal evaporated 9,300 pounds water.

With your device.—One ton coal evaporated 12,500 pounds water.



Second test. With Youghiogheny coal.

Without your device.—One ton coal evaporated 12,586 pounds water.

With your device.—One ton coal evaporated 14,074 pounds water.

Yours truly,

(Signed) MINNESOTA SOAP CO.

ARTHUR G. RICE, Pres.

DEPARTMENT OF PUBLIC WORKS,

Office of City Engineer.

St. Paul, Minn., May 10, 1900.

MR. R. W. CAVERNAUGH.

*Dear Sir:*—In reply to your inquiry as to my opinion of your Smoke Preventor, I would say that I have examined the same on several of the plants that you have equipped in this city, and from personal observations made at the time, I am of the opinion that it is effective as a smoke preventor. I see no reason why the ordinance passed for the abatement of the dense smoke cannot now be enforced and the citizens relieved from the smoke nuisance under which we have been suffering so long. I understand that it has given satisfaction where it has been applied to the schoolhouses and other public buildings. I have made no tests to determine whether or not it is an economizer of fuel, but the engineers in the plants that I have visited say that it does economize fuel, and I know that careful tests were made at the plant of the Northern Pacific Railway Company under the direction of their engineer.

Yours very truly,

(Signed) R. W. RUNDLETT,

City Engineer.

FARWELL, OZMUN, KIRK & Co.

Wholesale Hardware,

Broadway, Third and Pine Streets.

St. Paul, April 4, 1899.

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR CO.

*Gentlemen:*—In answer to your question regarding the Smoke Preventor and Fuel Economizer with which you equipped our plant more than two years ago, we will state that it gives us entire satisfaction. We find our boiler shells are smooth, and our flues are now cleaned only once a week. We can burn low grades of coal with good results, and we also burn all the rubbish and waste from our store. We believe that it also secures a saving in fuel.

Yours truly, FARWELL, OZMUN, KIRK & CO.,

Per R. H. KIRK, President.



THE HORNE & DANZ Co., Tinware,  
51 to 57 E. Fillmore Ave.

St. Paul, Minn., August 24, 1899.

SUPT. NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co.,

*Dear Sir:*—In reference to that Smoke Consumer, I will state it has gone beyond my expectations. It is without question the best device for preventing smoke that I have ever run across. You know what an awful stack we had for smoke. Well, just as soon as we put on the device it cut off the smoke slick and clean. It looks as if something had happened to the boiler, the smoke disappears so suddenly.

Hoping that you are getting lots of business in New York, I remain,

Yours truly,

M. J. HOWE, Engineer.

Temple Building, Montreal, April 4th, 1900.

R. W. CAVERNAUGH, Esq., President,

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co.,

*Dear Sir:*—When the Trustees of this Building decided last August to put in your Smoke Preventor attachment to our boilers, I had not much faith in any such appliance and considered that it was money thrown away, but I am glad to acknowledge that your Appliance has given us entire satisfaction. It not only has abated the smoke nuisance but has been a great saver of fuel, and I have no hesitation in stating that it will pay for itself before it has been in use twelve months.

You are at liberty to make what use you wish of this letter.

Yours truly,

JOHN A. GROSSE, Mgr. Temple Building.

CLEMENT LAFLEUR & DECARIE,

Manufacturiers de Chaussures en Gros.

Cité de St. Henri de Montréal, 2 Fév., 1900.

MON. R. W. CAVERNAUGH, President,

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co'y,

*Monsieur:*—Nous avons le plaisir de vous informer que la machine pour empêcher la fumée, que vous avez posée dans notre établissement, travaille à perfection et que nous pouvons la recommander comme étant la seule qui puisse faire ce travail avec autant d'économie, elle tient notre chaudière en bon état, et répond en tout à ce que la loi exige.

Vos dévoués,

CLEMENT LAFLEUR & DECARIE.



MONTREAL STREET RAILWAY Co.,

Montreal, March 27th, 1900.

RALPH W. CAVENAUGH, Esq.,

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co.,

*Dear Sir* :—In reply to your enquiry re Smoke Consumer I beg to state that we have had your Consumer in operation for several months at the above named Co.'s Power Station, and are so well satisfied with it that we have placed an order with your Company for the equipment of all our Babcock and Wilcox Boilers. Previous to introducing your consumer we tried the B & W Chain Grate and Jones Underfeed Stokers, and neither of them were successful and had to be taken out. I cannot speak too highly of your apparatus. If I can be of any assistance to you on the other side you are at liberty to use my name. Wishing you success, I beg to remain, Dear Sir,

Yours very truly, WALTER ALEXANDER, Chief Engineer.

WARDEN KING AND SON,

Craig St. Foundry,

Montreal, 19th April, 1900.

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co.,

*Gentlemen* :—Replying to your enquiry regarding the smoke consuming apparatus you have applied to our steam boilers. We have no hesitation in saying that we are satisfied that the apparatus does all you claim for it, the smoke is consumed and our fuel bill is lessened by its use. We shall be happy to reply favorably to any one whom you may refer to us.

Yours very truly, WARDEN KING & SON.

BUREAUX DE "LA PRESSE" RUE SAINT-JACQUES,

Montréal, Nov. 12, 1900.

THE NORTHWESTERN AUTOMATIC SMOKE PREVENTOR Co.,

*Dear Sir* :—I hasten to comply with your request as regards our opinion of your device. After having seriously studied, during ten years, the different smoke consumers on the market, and having tried five different models at "La Presse" office without any good results, I was sent to the United States to secure the best and most modern type, so as to complete the installation of the steam boilers in our new building. Having chosen your Smoke Preventor in preference to all others, and having used it a certain time, I am pleased to say it gives entire satisfaction. Two of the points to which I attach most importance are particularly the automatic way in which your device works (which is absolutely necessary to obtain good results), and the fact of the grate bar being left so that any kind of fuel can be used.

L. G. GRATTON, Supt. "La Presse."



**American District Steam Co.**

Lockport, N. Y., July 14th, 1900.

**Superintendent, American Steam Power Co.,**

*Dear Sir:*—After about three months experience with your American  
Steam Power we are prepared to give it our unqualified endorsement.

The service does all you claimed for it, and not only satisfies us, but  
pleases the public.

I quote from a few comments in last month's issue to you, but you will  
perceive at once that it is well deserved.

We will be pleased to quote a good word for this service whenever we  
have an opportunity.

Very truly yours,

**AMERICAN DISTRICT STEAM CO.,**

J. H. BARNES, President.

**Captain Francis Richard Cameron,**

Office of the Superintendent of Belling Beach.

Marion, August 20th, 1900.

**Superintendent, American Steam Power Co.,**

**J. H. Cameron, President.**

*Dear Sir:*—Replying to your inquiry of the 14th instant. We are well  
satisfied with the results previously because of your service. It does the  
work very thoroughly. We have not made use for economy, as the cost of  
fuel has prevented us doing so.

Yours truly,

(Signed) R. STEINSON,

Supt. Belling Beach.

**American District Steam Co.,**

Hotel Green House and Tavern Steam Heating.

Lockport, N. Y., Sept. 14, 1900.

**J. H. Cameron, Pres.,**

**Superintendent, American Steam Power Co.,**

*Dear Sir:*—I am sorry at the late delivery of your power, but a  
great deal of business generally has prevented until the present time. We have  
now had your service in operation in our manufacturing plant for  
several months, and can give it our unqualified approval. Having had some  
experience previously with a steam generating boiler in our heating system,  
which is far from satisfactory, it gives us pleasure to recommend a service  
which performs such good work. We believe there is considerable economy  
in fuel when considering the use of your apparatus, but have not had the



opportunity to determine the percentage of saving on this account. We will give prompt attention to parties whom you refer to us for our experience.

Yours very truly,

AMERICAN DISTRICT STEAM CO.,

(Signed) J. H. BABCOCK, President.

THE FORMAN, BASSETT, HATCH COMPANY,

223-225 Seneca Street,

Cleveland, Ohio, Aug. 21st. 1900.

NORTHWESTERN AUTOMATIC SMOKE PREVENTOR CO.,

*Gentlemen:*—We take pleasure in saying that the Automatic Smoke Preventor your Company put on our boilers is giving most satisfactory results. We have not tested it as a saver, but consider it the best Smoke Preventor that has come to our notice and fully believe that it will meet all requirements of the smoke law. We have had eight different devices on our boilers, all of which have proved unsatisfactory. We will be very glad to exhibit your device to anyone referred to us.

Very truly yours,

THE FORMAN, BASSETT, HATCH CO.,

C. O. BASSETT, Sec'y and Treas.

OFFICE OF DOERNBERG & GOODMAN,

Metropolitan Packing Box Factory,

Foot of East 8th Street.

New York, December 18th, 1899.

*Gentlemen:*—In reply to your inquiry regarding the Northwestern Automatic Smoke Preventor Apparatus which you put on our boilers, we can say that for two months we examined a great many machines, of all kinds of makes, and finally decided to try your machine, and we are happy to say that we have tested it on soft coal for the benefit of our neighbors, as well as ourselves, and use it all the time on our boilers, with shavings, and can only say that it is absolutely perfect.

We have shown it to any number of interested people, as also to the Health officers of this City, and all have come to the same conclusion. We shall be happy at all times to show the machine and the way it works, to anybody you may send here.

Yours respectfully,

(Signed) DOERNBERG & GOODMAN.



OFFICE OF J. & C. FISCHER,  
Manufacturers of the Fischer Piano.

New York, May 29, 1900.

*Gentlemen:*—With pleasure we are glad to inform you that we are well pleased with the workings of The Smoke Preventor & Fuel Economizer that you equipped our battery of boilers with last January. It is a good steam producer and we have no smoke, which is a pleasure to us as well as to our neighbors. You can refer to us at any time.

Very truly yours,

(Signed) J. & C. FISCHER.

CHARLES BROADWAY ROUSS.  
New York City.

August 30, 1900.

MR. R. W. CAVERNAUGH, President,  
NORTHWESTERN SMOKE PREVENTOR CO.

*Dear Sir:*—The smoke device installed in our plant has given entire satisfaction in burning soft coal, as well as the sweepings and dirt accumulating in our business, consuming straw and wet paper equally as well as the coal, with almost no smoke from the smoke-stack. We are greatly pleased with it, and would not be without it for many times its cost.

Respectfully, CHARLES BROADWAY ROUSS,  
CHAS. E. TIMBERLAKE.

NORTHERN PACIFIC RAILWAY CO.,  
Power House, General Office Building,  
St. Paul, Minnesota.

St. Paul, May 18th, 1899.

An abstract from the monthly reports at this station states :

At a recent test using slack coal

1 Ton without device evaporated 9249 lbs. of water.

1 Ton with device evaporated . 13062 " " "

A test using Hocking Valley coal

1 Ton without device evaporated 12819 lbs. of water.

1 Ton with device evaporated 15862 " " "

The device is especially valuable in this plant for the reason that when it is in use we can consume all kinds of refuse, old books, papers, etc., a large amount of which accumulates in the operation of the railroad.

(Signed) WM. F. WACKER,

Chief Engineer in charge of Power Plant.



## A DOZEN BRIEFS

The merits of the Automatic Smoke Preventor and Fuel Economizer are summed up in a dozen brief sentences.

*First*—Being automatic, the action is always certain.

*Second*—Simplicity is its striking feature.

*Third*—Complete combustion is certain.

*Fourth*—It is economical, saving from 10 to 40% in coal bills.

*Fifth*—It increases the H. P. capacity of the boilers.

*Sixth*—It prolongs the life of the boiler.

*Seventh*—It dispenses with the daily cleaning of flues.

*Eighth*—It permits the use of cheapest quality of fuel, including shavings, sawdust and refuse.

*Ninth*—Cold air cannot enter the fire box while stoking.

*Tenth*—Price is lowest and satisfaction guaranteed.

*Eleventh*—Every user is an endorser.

*Twelfth*—It prevents smoke.

THE SMOKE PREVENTION CO. OF AMERICA,

66 BROADWAY, NEW YORK.  
**231 The Mutual Life Building,**  
**1011 Chestnut St., Philada.**

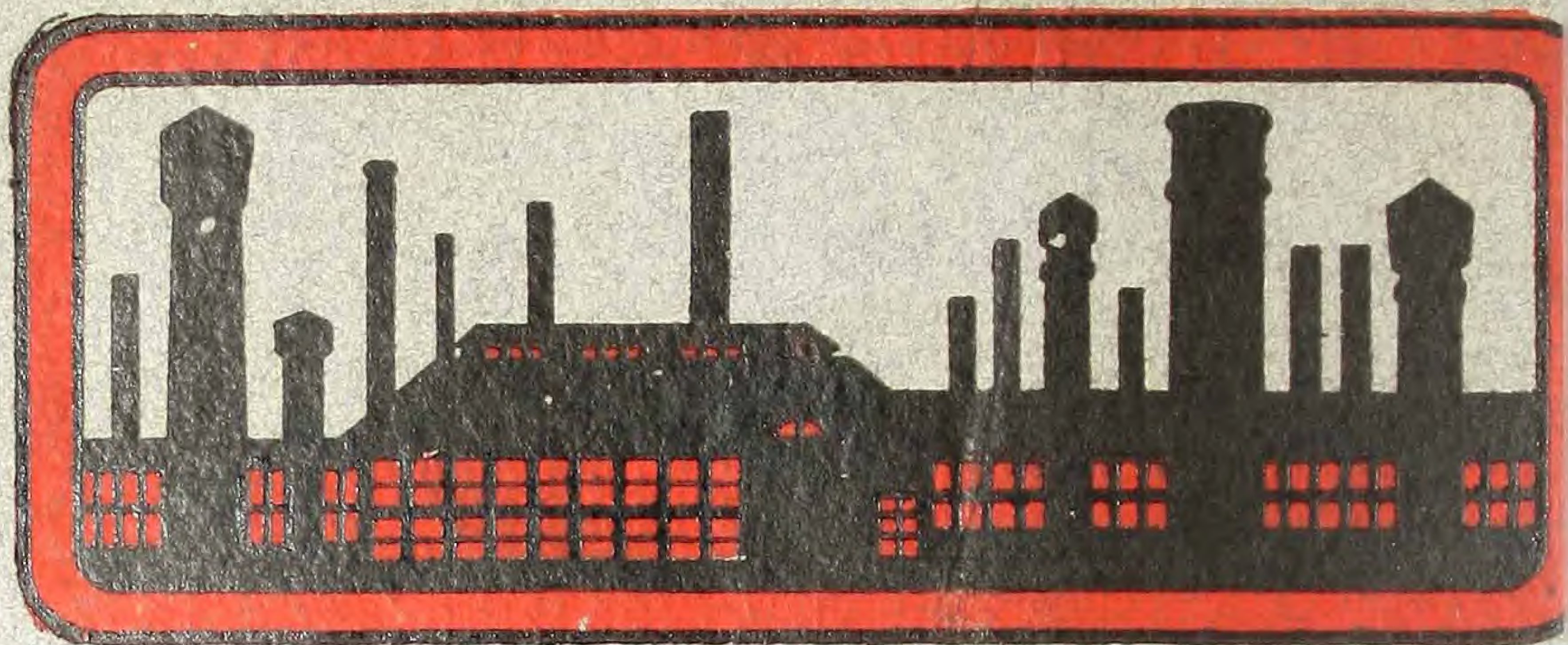












THE PASSING  
OF  
SMOKEVILLE